STATE OF UTAH  DEPARTMENT OF NATURAL RESOURCE  DIVISION OF OIL, GAS AND MINING							FORI			
APPLICATION FOR PERMIT TO DRILL							1. WELL NAME and NUMBER NBU 748-31E			
2. TYPE OF WORK  DRILL NEW WELL ( REENTER P&A WELL ( D) DEEPEN WELL ( D)						3. FIELD OR WILD	CAT NATURAL BUTTES			
4. TYPE OF WELL  Gas Well Coalbed Methane Well: NO						5. UNIT or COMMU	NITIZATION AGREINATURAL BUTTES	EMENT NAME		
6. NAME OF OPERATOR	EOG Resou					7. OPERATOR PHO				
8. ADDRESS OF OPERATOR	East Highway 40	), Vernal, UT, 84078				9. OPERATOR E-MA	AIL gardner@eogresource	es.com		
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)		11. MINERAL OWNE	_			12. SURFACE OWN	_	a		
ML-22446  13. NAME OF SURFACE OWNER (if box 12	= 'fee')	FEDERAL IND	IAN STATE (	9	FEE (		DIAN STATE (  ER PHONE (if box 1	~ ~		
15. ADDRESS OF SURFACE OWNER (if box							ER E-MAIL (if box 1			
131 ADDITION OF SOM ACT OWNER (III DOX		40 707500 70 000	MATHER E BRODUE				ER E FIREE (II BOX 2			
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')		18. INTEND TO COM MULTIPLE FORMATI	ONS		_	19. SLANT		_		
		YES () (Submit Co	ommingling Applicat	tion)	NO 📵	VERTICAL 📵 DI	RECTIONAL ( H	ORIZONTAL (		
20. LOCATION OF WELL	FO	OTAGES	QTR-QTR		SECTION	TOWNSHIP	RANGE	MERIDIAN		
LOCATION AT SURFACE	950 FS	950 FSL 2056 FEL			31	9.0 S	21.0 E	S		
Top of Uppermost Producing Zone	950 FS	950 FSL 2056 FEL			31	9.0 S	21.0 E	S		
At Total Depth	950 FS	L 2056 FEL	SWSE		31	9.0 S	21.0 E	S		
21. COUNTY UINTAH		22. DISTANCE TO N	EAREST LEASE LIN 707	NE (F	eet)	23. NUMBER OF ACRES IN DRILLING UNIT 369				
		25. DISTANCE TO NI (Applied For Drilling		SAME	POOL	<b>26. PROPOSED DEPTH</b> MD: 6957 TVD: 6957				
27. ELEVATION - GROUND LEVEL		28. BOND NUMBER		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPL			F APPLICABLE			
4948			6196017			WATER REGITO A	49-225	- AITEIGABLE		
		АТ	TTACHMENTS							
VERIFY THE FOLLOWING	ARE ATTACH	ED IN ACCORCANO	CE WITH THE UT	ТАН	OIL AND G	AS CONSERVAT	ON GENERAL RU	LES		
WELL PLAT OR MAP PREPARED BY	LICENSED SUR	VEYOR OR ENGINEER	COM	COMPLETE DRILLING PLAN						
AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)				FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER						
DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)				OGRA	APHICAL MAI	P				
NAME Kaylene Gardner	TITLE R	egulatory Administrator	r		PHONE 435	E 435 781-9111				
SIGNATURE	DATE 1	DATE 11/25/2008 EMAIL ka			<b>EMAIL</b> kayle	IL kaylene_gardner@eogresources.com				
API NUMBER ASSIGNED APPROVAL 43047500500000					Boll	Lijill				

Permit Manager

	Proposed Hole, Casing, and Cement									
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)						
Cond	17.5	13.375	0	60						
Pipe	Grade	Length	Weight							
	Grade H-40 ST&C	60	48.0							
	Cement Interval	Top (MD)	Bottom (MD)							
		0	60							
		<b>Cement Description</b>	Class	Sacks	Yield	Weight				
			Class C Cement	0	0.0	0.0				

	Proposed Hole, Casing, and Cement									
String	Hole Size	<b>Casing Size</b>	Top (MD)	Bottom (MD)						
Surf	12.25	9.625	0	2300						
Pipe	Grade	Length	Weight							
	Grade J-55 ST&C	2300	36.0							
	Cement Interval	Top (MD)	Bottom (MD)							
		0	2300							
		<b>Cement Description</b>	Class	Sacks	Yield	Weight				
			Class G Cement	185	3.82	11.0				

	Proposed Hole, Casing, and Cement									
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)						
Prod	7.875	4.5	0	6957						
Pipe	Grade	Length	Weight							
	Grade N-80 LT&C	6957	11.6							
	Cement Interval	Top (MD)	Bottom (MD)							
		0	6957							
		<b>Cement Description</b>	Class	Sacks	Yield	Weight				
			Hi Lift "G"	144	3.91	11.0				
			50/50 Poz	445	1.28	14.1				

# NATURAL BUTTES UNIT 748-31E SW/SE, SEC. 31, T9S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

## 1. & 2. ESTIMATED TOPS & ANTICIPATED OIL, GAS, & WATER ZONES:

FORMATION	TVD-RKB (ft)	Objective	Lithology	
Green River	1,577		Shale	
Mahogany Oil Shale Bed	2,294		Shale	
Wasatch	4,892	Primary	Sandstone	Gas
Chapita Wells	5,543	Primary	Sandstone	Gas
Buck Canyon	6,233	Primary	Sandstone	Gas
North Horn	6,812	Primary	Sandstone	Gas
TD	6,957			

Estimated TD: 6,957' or 200'± below TD

Anticipated BHP: 3,799 Psig

- 1. Fresh Waters may exist in the upper, approximately 1,000 ft  $\pm$  of the Green River Formation, with top at about 2,000 ft  $\pm$ .
- 2. Cement isolation is installed to surface of the well isolating all zones by cement.

# 3. PRESSURE CONTROL EQUIPMENT: Production Hole – 5000 Psig

BOP schematic diagrams attached.

#### 4. CASING PROGRAM:

CASING	Hole Size	<u>Length</u>	<u>Size</u>	WEIGHT	<u>Grade</u>	<b>Thread</b>	Rating Collapse	Factor Burst	<b>Tensile</b>
Conductor	17 ½"	0 – 60'	13 %"	48.0#	H-40	STC	770 PSI	1730 PSI	322,000#
		0'-2,300'							
Surface	12 1/4"	KB±	9-5/8"	36.0#	J-55	STC	<b>2020 PSI</b>	3520 Psi	394,000#
<b>Production</b>	7-7/8"	Surface – TD	4-1/2"	11.6#	N-80	LTC	6350 PSI	7780 Psi	233,000#

Note: 12- $\frac{1}{4}$ " surface hole will be drilled to a total depth of 200'± below the base of the Green River lost circulation zone and cased w/9- $\frac{5}{8}$ " as shown to that depth. Drilled depth may be shallower or deeper than the 2300' shown above depending on the actual depth of the loss zone.

All casing will be new or inspected.

# NATURAL BUTTES UNIT 748-31E SW/SE, SEC. 31, T9S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

# 5. Float Equipment:

#### **Surface Hole Procedure (0'- 2300'±)**

Guide Shoe

Insert Float Collar (PDC drillable)

Centralizers: 1-5' above shoe, top of jts. #2 and #3 then every 5<sup>th</sup> joint to surface. (15 total)

#### **Production Hole Procedure (2300'± - TD):**

Float shoe, 1 joint casing, float collar and balance of casing to surface. 4-1/2", 11.6#, N-80 or equivalent marker collars or short casing joints to be placed at top of Price River and 400' above top of Wasatch. Centralizers to be placed 5' above shoe on joint #1, top of joint #2, and every 2nd joint to 400' above Wasatch Island top. Thread lock float shoe, top and bottom of float collar, and top of 2<sup>nd</sup> joint.

### 6. MUD PROGRAM

# **Surface Hole Procedure (Surface - 2300'±):**

Air/air mist or aerated water.

<u>Production Hole Procedure (2300' $\pm$  - TD):</u> Anticipated mud weight 9.5 – 10.5 ppg depending on actual wellbore conditions encountered while drilling.

2300'±-TD A closed mud system will be utilized. A bentonite gelled water mud system will be used to control viscosity w/PHPA polymer used for supplemental viscosity and clay encapsulation/inhibition. Water loss will be maintained at <15cc's using white starch or PAC. Bactericides will be used as needed. Anticipated pH will range from 9.0-10.0. Mud weight will be adjusted as necessary for well control. Deflocculants/thinners will be used as necessary to maintain mud quality. LCM sweeps will be utilized as necessary to control lost circulation and mud loss. CO2 contamination, if encountered, will be treated with lime and gypsum.

# NATURAL BUTTES UNIT 748-31E SW/SE, SEC. 31, T9S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

### 1. VARIANCE REQUESTS:

**Reference:** Onshore Oil and Gas Order No. 1

Onshore Oil and Gas Order No. 2 – Section E: Special Drilling Operations

- o EOG Resources, Inc. requests a variance to regulations requiring a straight run blooie line to be 100' in length. (Where possible, a straight run blooie line will be used).
- o EOG Resources, Inc. requests a variance to regulations requiring the blooie line to be 100' in length. To reduce location excavation, the blooie line will be approximately 75' in length.
- o EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring dedusting equipment. Dust during air drilling operations is controlled by water mist.
- o EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring an automatic igniter or continuous pilot light on the blooie line. (Not required on aerated water system).
- o EOG Resources, Inc. requests a variance that compressors are located in the opposite direction from the blooie line a minimum of 100 feet from the well bore. (Air Compressors are rig mounted).

#### 8. EVALUATION PROGRAM:

**Logs:** Mud log from base of surface casing to TD.

Cased-hole Logs: Cased-hole logs will be run in lieu of open-hole logs consisting of the following:

**Cement Bond / Casing Collar Locator and Pulsed Neutron** 

# NATURAL BUTTES UNIT 748-31E SW/SE, SEC. 31, T9S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

## 9. CEMENT PROGRAM:

#### **Surface Hole Procedure (Surface - 2300'±):**

Lead: 185 sks Class "G" cement with 16% Gel, 10 #/sx Gilsonite, 3% Salt, 2% CaCI<sub>2</sub>, 3 lb/sx GR3

1/4 #/sx Flocele mixed at 11 ppg, 3.82 ft<sup>3</sup>/sk, yield, 23 gps water.

Tail: 207 sks Class "G" cement with 2% CaCI<sub>2</sub>, ½#/sk Flocele mixed at 15.6 ppg, 1.18 ft<sup>3</sup>/sk., 5.2

gps water.

**Top Out:** As necessary with Class "G" cement with 2% CaCI<sub>2</sub>, ½#/sk Flocele mixed at 15.6 ppg, 1.18

ft<sup>3</sup>/sk., 5.2 gps water.

**Note:** Cement volumes will be calculated to bring lead cement to surface and tail cement to

500'above the casing shoe.

#### **Production Hole Procedure (2300'± - TD)**

**Lead:** 144 sks: Hi-Lift "G" w/12% D20 (Bentonite), 1% D79 (Extender), 5% D44

(Salt),0.2% D46 (Antifoam), 0.25% D112 (Fluid Loss Additive), 0.25 pps D29

(cello flakes) mixed at 11.0 ppg, 3.91 ft<sup>3</sup>/sk., 24.5 gps water.

**Tail:** 445 sks: 50:50 Poz "G" w/ 2% D20 (Bentonite), 0.1% D46 (Antifoam), 0.075% D13

(Retarder), 0.2% D167 (Fluid Loss Additive), 0.2% D65 (Dispersant), mixed at

14.1 ppg,  $1.28 \text{ ft}^3/\text{sk.}$ , 5.9 gps water.

**Note:** The above number of sacks is based on gauge-hole calculation.

Lead volume to be calculated to bring cement to 200'± above 9-5/8" casing shoe. Tail volume to be calculated to bring cement to 400'± above top of Wasatch.

Final Cement volumes will be based upon gauge-hole plus 45% excess.

#### 10. ABNORMAL CONDITIONS:

#### Surface Hole (Surface - 2300'±):

Lost circulation

#### **Production Hole (2300'± - TD):**

Sloughing shales, lost circulation and key seat development are possible in the Wasatch Formation.

# NATURAL BUTTES UNIT 748-31E SW/SE, SEC. 31, T9S, R21E, S.L.B.&M.. UINTAH COUNTY, UTAH

# 11. STANDARD REQUIRED EQUIPMENT:

- A. Choke Manifold
- B. Upper and Lower Kelly Cock
- C. Stabbing Valve
- D. Visual Mud Monitoring

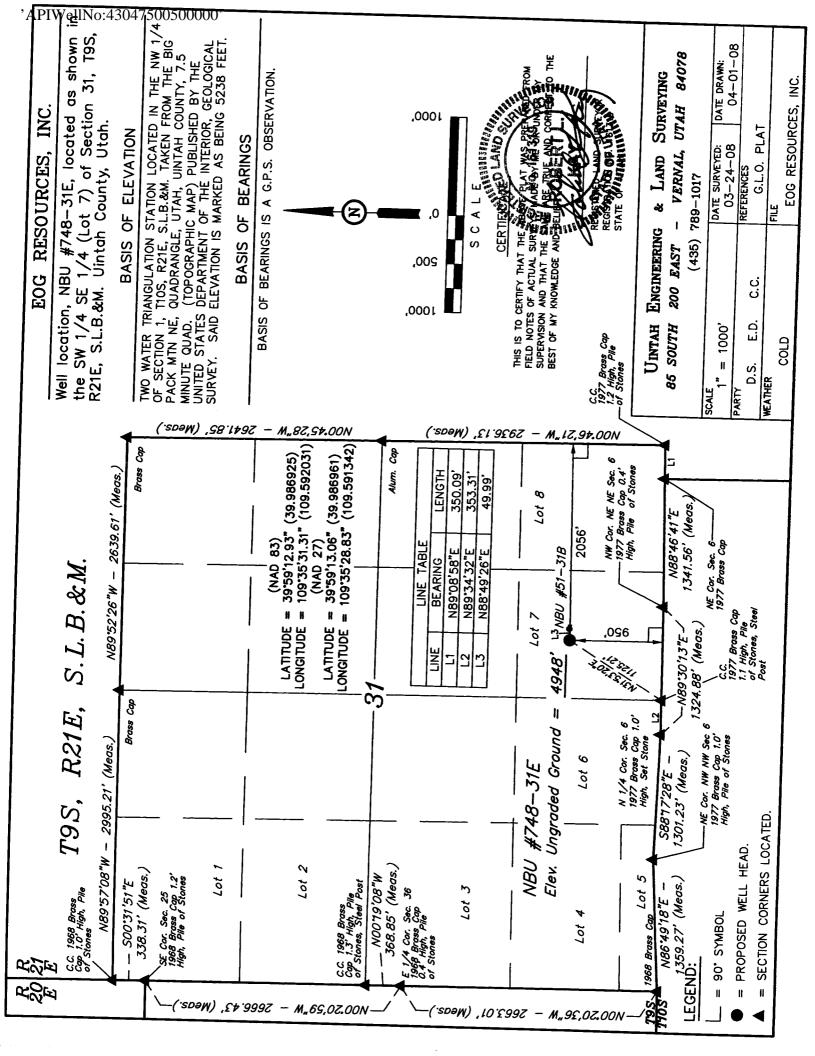
#### 12. <u>HAZARDOUS CHEMICALS:</u>

No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

# 13. Air Drilling Operations:

- 1. Main Air Compressors are 1250 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- 2. Secondary Air Compressors are 1170 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- 3. Minimum setting depth of conductor casing will be 60' GL or 10'± into competent formation, whichever is deeper, as determined by the EOG person in charge. Exceptions must be approved by an EOG drilling superintendent or manager.
- 4. The diameter of the diverter flow line will be a minimum of 10" to help reduce back pressure on the well bore during uncontrolled flow.
- 5. Rat and Mouse hole drilling will occur only after surface casing has been set and cemented.
- 6. EOG Resources, Inc. will use a properly maintained and lubricated stripper head.

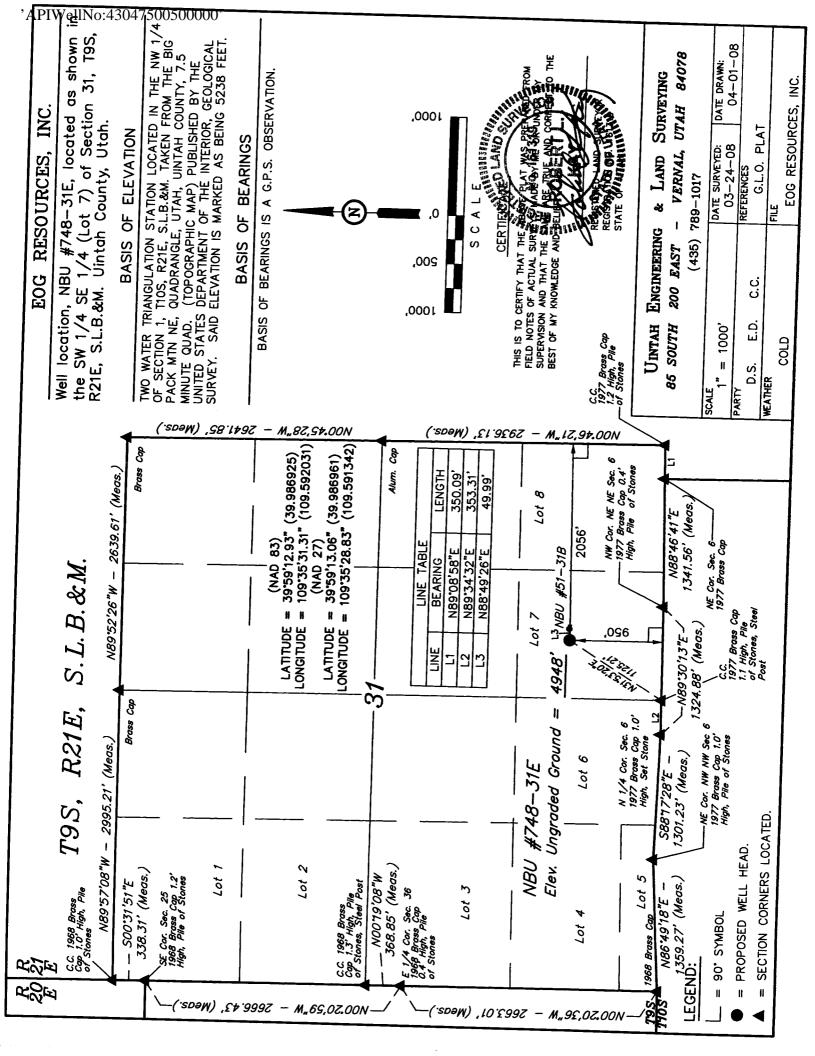
(Attachment: BOP Schematic Diagram)

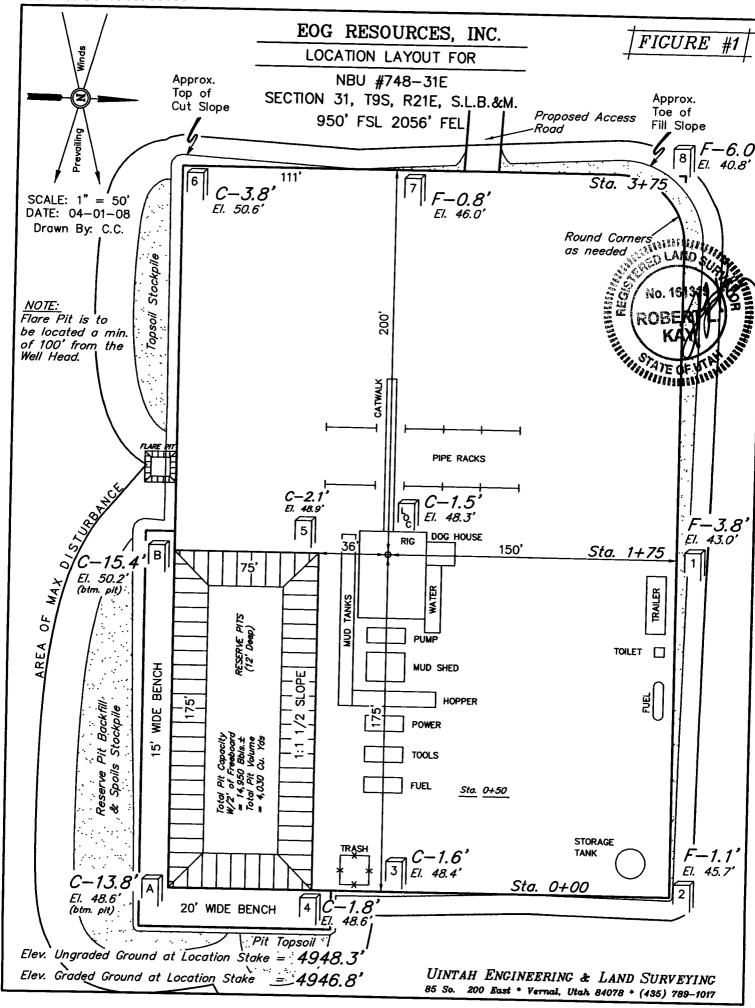


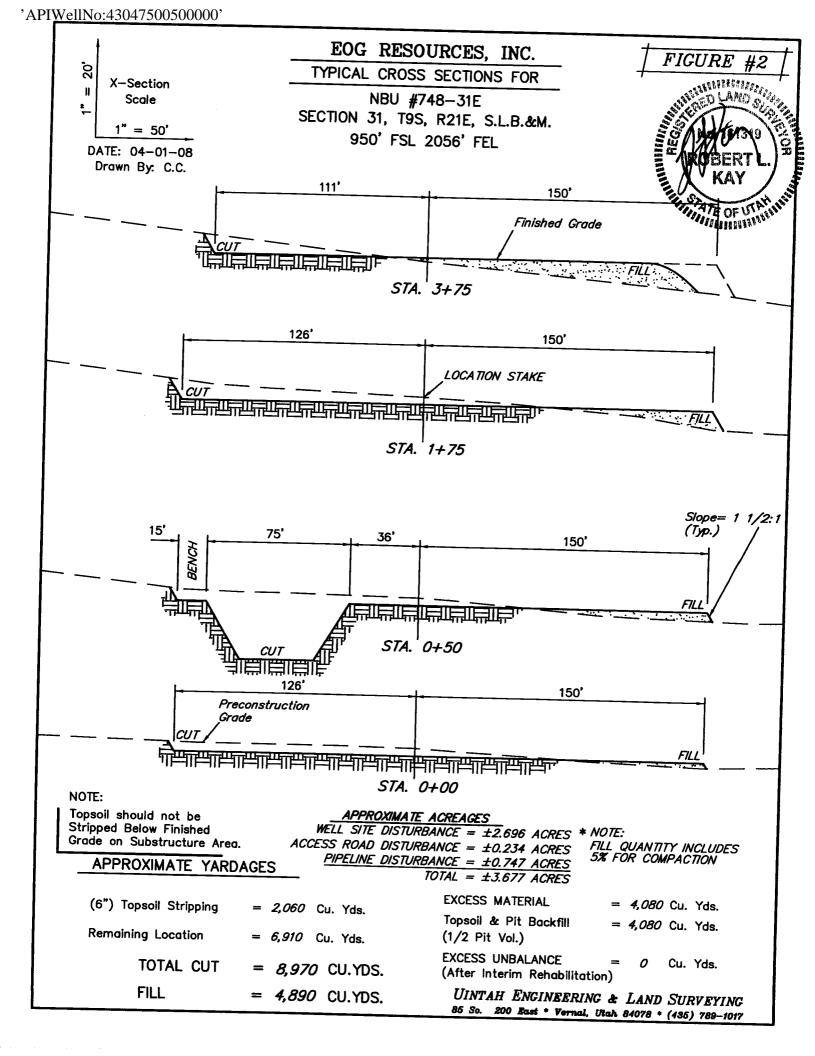
# EOG RESOURCES NBU #748-31E SECTION 31, T9S, R21E, S.L.B.&M.

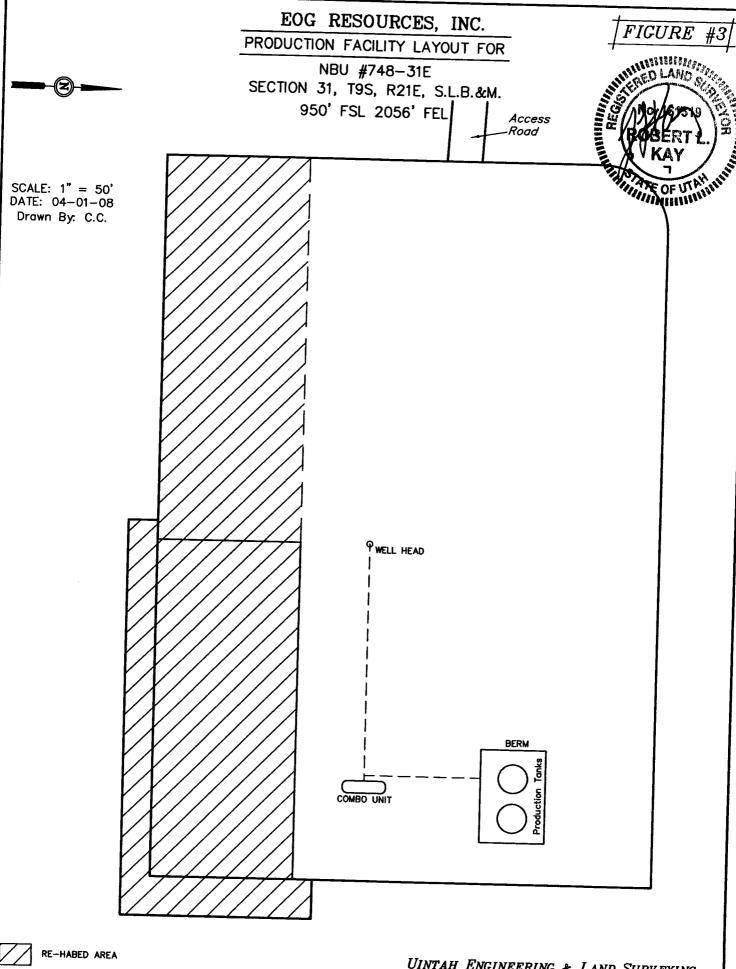
PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; EXIT LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 6.9 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN LEFT AND PROCEED IN A SOUTHEASTERLY, THEN EASTERLY DIRECTION APPROXIMATELY 3.7 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHEAST; TURN RIGHT AND PROCEED IN A SOUTHEASTERLY DIRECTION APPROXIMATELY 0.4 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE NORTHEAST; FOLLOW ROAD FLAGS IN A NORTHEASTERLY DIRECTION APPROXIMATELY 340' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 42.0 MILES.









# EOG RESOURCES, INC.

NBU #748-31E

LOCATED IN UINTAH COUNTY, UTAH SECTION 31, T9S, R21E, S.L.B.&M.

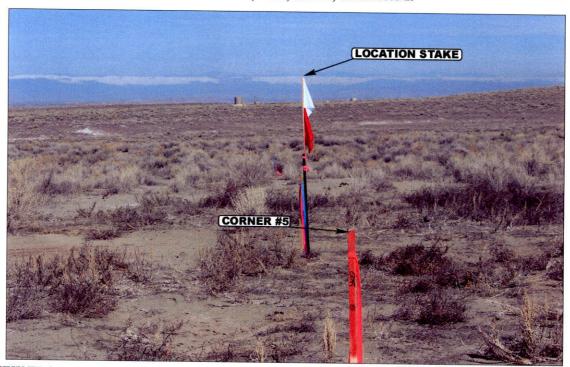


PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

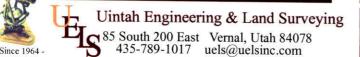
**CAMERA ANGLE: NORTHERLY** 



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

**CAMERA ANGLE: NORTHEASTERLY** 

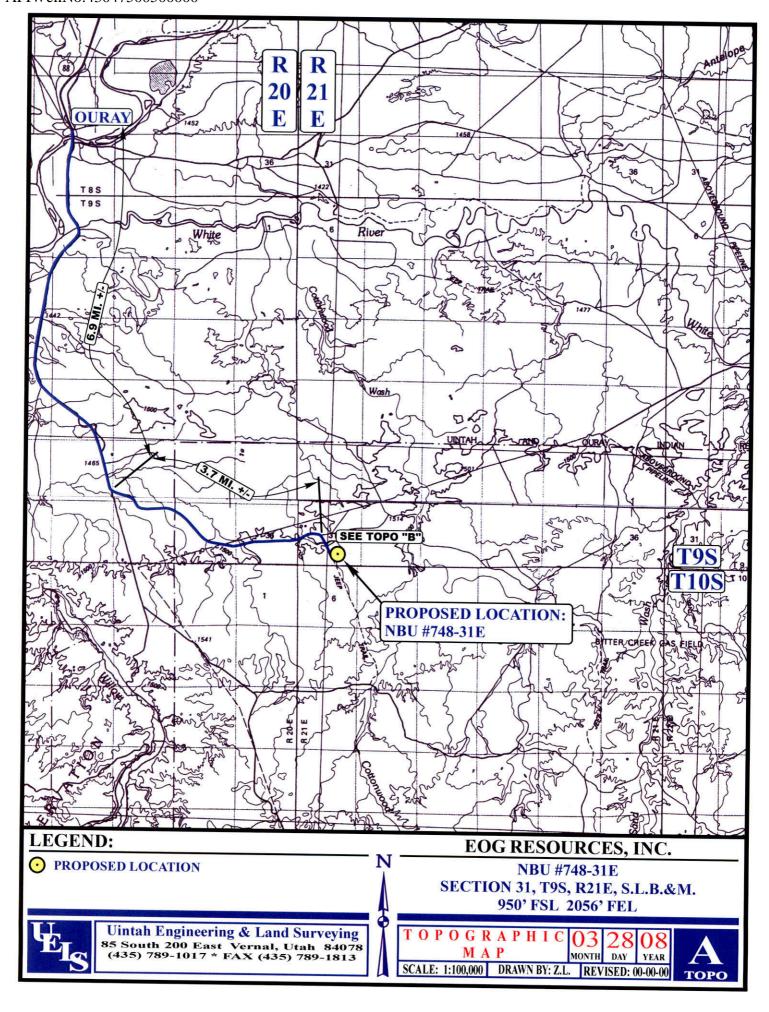
РНОТО

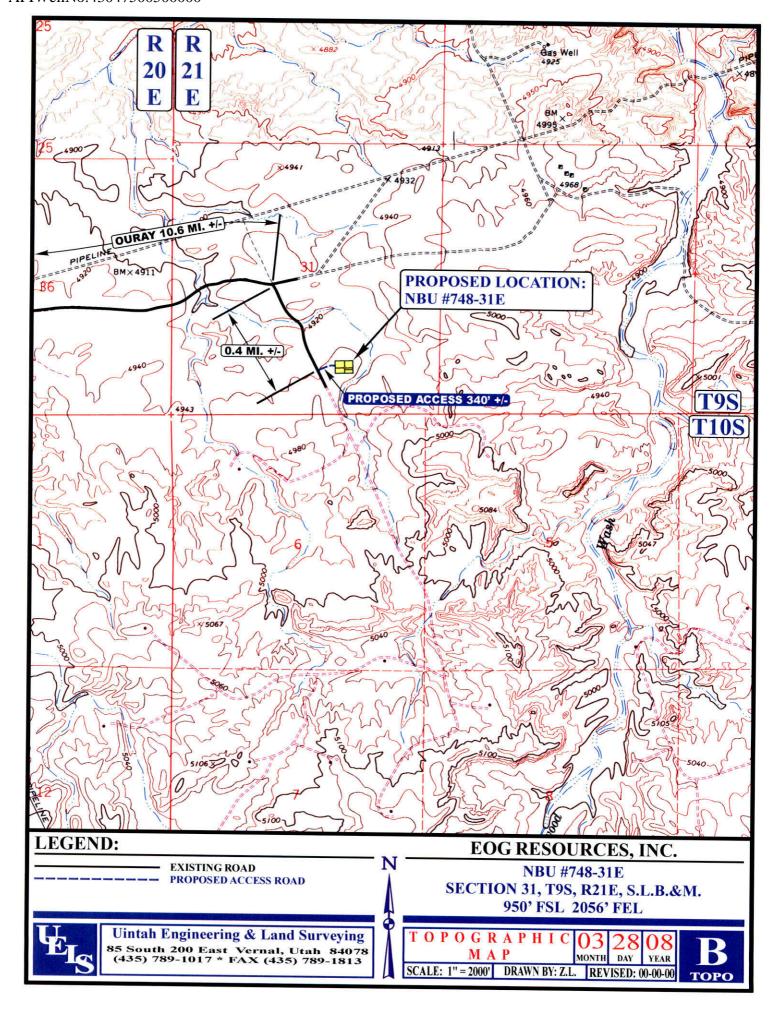


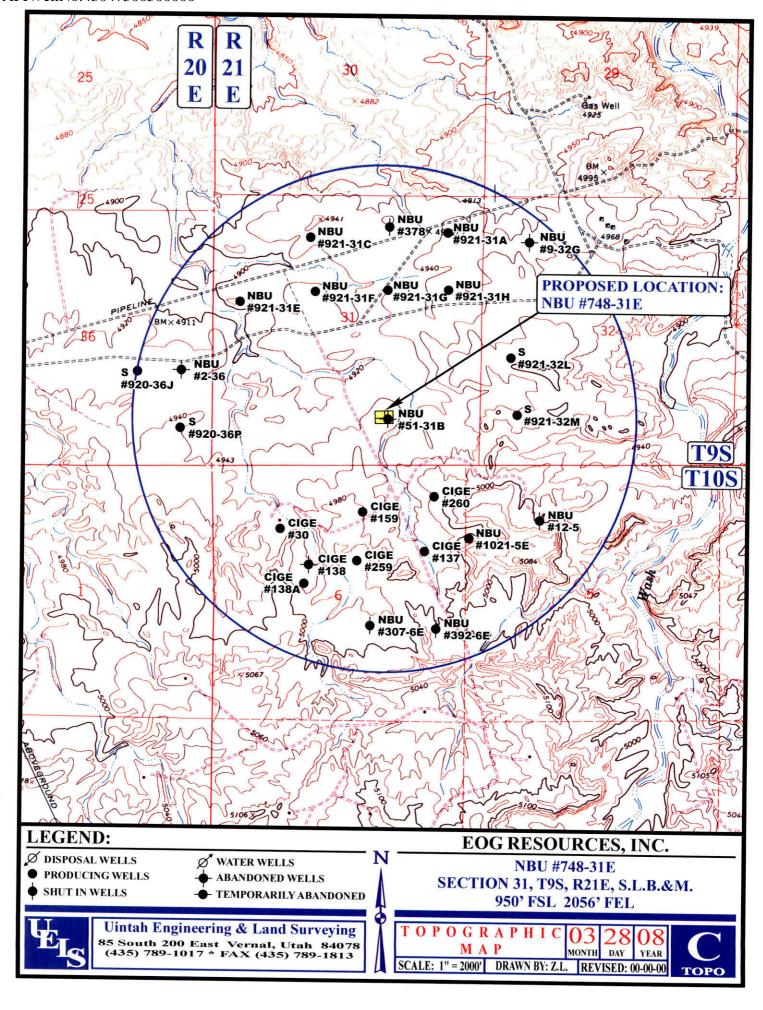
LOCATION PHOTOS

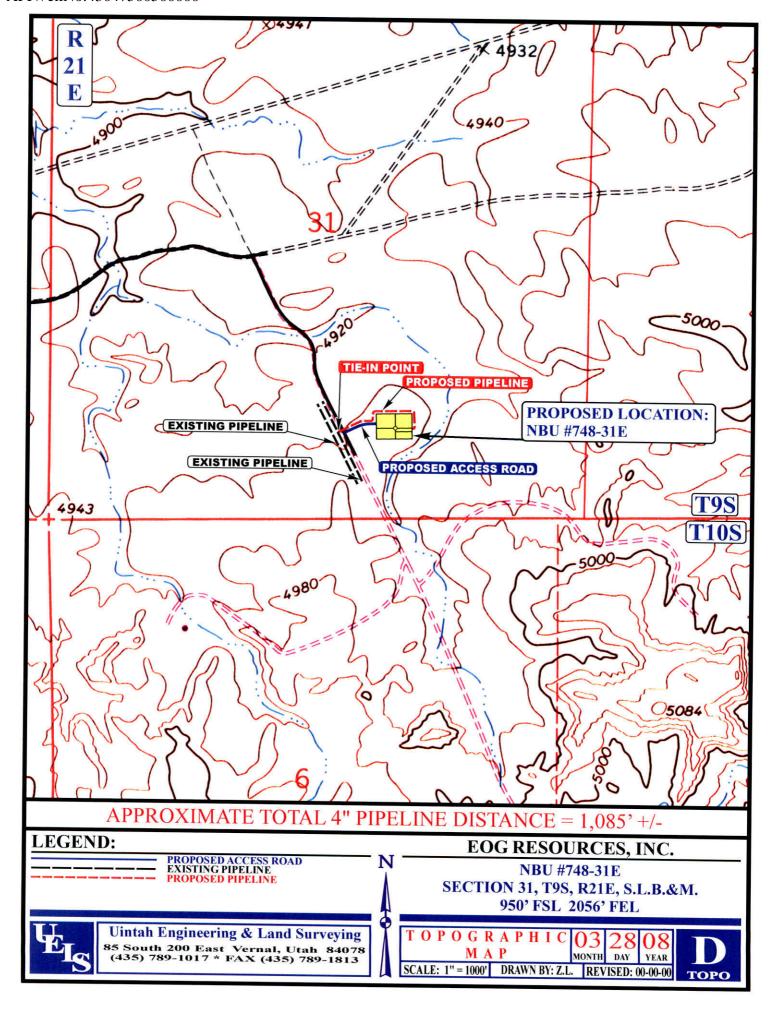
O3 28 08
MONTH DAY YEAR

TAKEN BY: D.S. DRAWN BY: Z.L. REVISED: 00-00-00











# Natural Buttes Unit 748-31E Lot 7 (SWSE), Section 31, T9S, R21E Uintah County, Utah

### SURFACE USE PLAN

#### 1. Existing Roads:

- A. See attached Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing roads.
- B. The proposed well site is located approximately 42.0 miles south of Vernal, Utah See attached TOPO Map "A".
- C. Refer to attached Topographic Map "A" showing labeled access route to location.
- D. Existing roads will be maintained and repaired as necessary.

#### 2. PLANNED ACCESS ROAD:

- A. The access road will be approximately 340' in length. See attached Topo B.
- B. The access road has a 40-foot ROW w/18 foot running surface.
- C. Maximum grade of the new access road will be 8 percent.
- D. No turnouts will be required.
- E. Road drainage crossings shall be of the typical dry creek drainage crossing type.
- F. No bridges, or major cuts and fills will be required.
- G. The access road will be dirt surface.
- H. No gates, cattleguards, or fences will be required or encountered.
- I. A 40-foot permanent right-of-way is requested. No surfacing material will used.
- J. No additional storage areas will be needed for storing equipment, stockpiling, or vehicle parking.

All travel will be confined to existing access road rights-of-way.

New or reconstructed roads will be centerlined – flagged at time of location staking.

The road shall be constructed/upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. Construction/upgrading shall include ditching, draining, graveling, crowning, and capping the roadbed as necessary to provide a well constructed safe road. Prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Traveling off the 40 foot right-of-way will not be allowed. Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions. Should mud holes develop, they shall be filled in and detours around then avoided.

As operator, EOG Resources, Inc. shall be responsible for all maintenance on cattleguards, or gates associated with this oil and/or gas operation.

Traveling off the 40 foot right-of-way will not be allowed. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, Third Edition, and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction. During the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and useable condition and drainage ditches and culverts will be kept clear and free flowing.

#### 3. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS:

See attached TOPO map "C" for the location of wells within a one-mile radius.

#### 4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:

#### A. On Well Pad

- 1. Production facilities will be set on location if the well is successfully completed for production. Facilities will consist of wellhead valves, combo separator-dehy unit with meter, two (2) 400-bbl vertical tanks and attaching piping.
- 2. Gas gathering lines A 4" gathering line will be buried from dehy to the edge of the location.

#### B. Off Well Pad

- 1. Proposed pipeline will transport natural gas.
- 2. The pipeline will be a permanent feeder line.
- 3. The length of the proposed pipeline is 1085' x 40'. The proposed pipeline leaves the eastern edge of the proposed location proceeding in a northerly then westerly direction for an approximate distance of 1085' tieing into an existing pipeline in

the SWSE of Section 31, T9S, R21E. Pipe will be 4" NOM, 0.156 wall, Grade X42, Zap-Lock, electric weld with a 35 mil X-Tru coating.

- 4. Proposed pipeline will be a 4" OD steel, zap-lok line laid on the surface
- 5. Proposed pipeline will be laid on surface.
- 6. Pipeline will be coupled using the Zap lock method. No additional off-pad facilities will be required.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within 6 months of installation. All facilities will be painted with Carlsbad Canyon. Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded.

#### 5. LOCATION AND TYPE OF WATER SUPPLY:

- A. Water supply will be from Ouray Municipal Water Plant at Ouray, Utah, and/or Bonanza Power Plant water source in Sec 26, T8S, R23E Uintah County, UT (State Water Right # 49-225(A31368)). Water will be hauled by a licensed trucking company.
- B. Water will be hauled by a licensed trucking company.
- C. No water well will be drilled on lease.

#### 6. Source of Construction Materials:

- A. All construction material for this pipeline will be of native borrow and soil accumulated during the construction of the location.
- B. No mineral materials will be required.

## 7. METHODS OF HANDLING WASTE DISPOSAL:

#### A. METHODS AND LOCATION

- 1. Cuttings will be confined in the reserve pit.
- 2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.
- 3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at the Uintah County Landfill.

- 4. Produced wastewater will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. After the 90 day period, the produced water will be contained in a tank on location and then disposed of at one of the following locations: Natural Buttes Unit 21-20B SWD, Ace Disposal, CWU 550-30N SWD, CWU 2-29 SWD, Red Wash Evaporation Ponds, 1, 2, 3, 4, 5, or 6, or EOG Resources, Inc. drilling operations (Chapita Wells Unit, Natural Buttes Unit & Stagecoach Unit).
- 5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on the drilling rig to avoid leakage of oil to the pit.
- B. Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in the reserve pit or by removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to the reserve pit will be avoided by flaring them off in the flare pit at the time of recovery.

The reserve pit will be constructed so as not to leak, break, or allow discharge. If the reserve pit requires padding prior to lining (due to rocky conditions) felt padding will be used.

The reserve pit shall be lined with felt and a 16 millimeter plastic liner. Sufficient bedding (i.e. weed free straw, or hay; felt; polyswell or soil) to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. More stringent protective requirements may be deemed necessary by the A.O.

EOG Resources, Inc. maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/ stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and EHS and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing or completion of the well.

#### 8. ANCILLARY FACILITIES:

None anticipated.

#### 9. WELL SITE LAYOUT:

- A. Refer to attached well site plat for related topography cuts and fills and cross sections.
- B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.
- C. Refer to attached well site plat for rig orientation, parking areas, and access road.

The reserve pit will be located on the south corner of the location. The flare pit will be located downwind of the prevailing wind direction on the south side of the location, a minimum of 100 feet from the well head and 30 feet from the reserve pit fence.

The stockpiled pit topsoil (first six inches) will be stored separate from the location topsoil. The stockpiled location topsoil will be stored in a location providing easy access for interim reclamation and protection of the topsoil. Upon completion of construction, the stockpiled topsoil from the location will be broadcast seeded with the approved seed mixture from this location and then walked down with a Caterpiller tractor.

Access to the well pad will be from the west.

#### FENCING REQUIREMENTS:

All pits will be fenced according to the following minimum standards:

- A. Thirty-nine inch net wire shall be used with at least one strand of barbed wire on top of the net wire. (Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.)
- B. The net wire shall be no more than 2 inches above the ground. The barbed wire strand shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
- C. Corner posts shall be cemented and/or braced in such a manner as to keep the fence tight at all times.
- D. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distances between any two posts shall be no greater than 16 feet.
- E. All wire shall be stretched by using a stretching device before it is attached to the corner posts.

The reserve pit fencing will be on the three sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until clean-up.

Each existing fence to be crossed by the access road shall be braced and tied off before cutting so as to prevent slacking of the wire. The opening shall be closed temporarily as necessary during construction to prevent the escape of livestock, and, upon completion of construction, the fence shall be repaired to BLM or SMA specifications. A cattleguard with an adjacent 16 foot gate shall be installed in any fence where a road is regularly traveled. If the well is a producer, the cattleguards (shall/shall not) be permanently counted on concrete bases. Prior to crossing any fence located on Federal land, or any fence between Federal land and private land, the operator will contact the BLM, who will in turn contact the grazing permittee or owner of said fence and offer him/her the opportunity to be present when the fence is cut in order to satisfy himself/herself that the fence is adequately braced and tied off.

#### 10. PLANS FOR RECLAMATION OF THE SURFACE:

#### A. Interim Reclamation (Producing Location)

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.

Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.

If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.

The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours – See attached Figure #3. The reserve pit will be reclaimed within 90 days from the date of the well completion, or as soon as environmental conditions allow. Before any dirt takes place, the reserve pit must be completely dry and free of all foreign obstacles.

The stockpiled pit topsoil will then be spread over the pit area and broadcast seeded with the prescribed seed mixture for this location. The seeded area will then be walked down with a cat.

#### B. Dry Hole/Abandoned Location

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and the BLM will attach the appropriated surface rehabilitation conditions of approval.

#### 11. SURFACE OWNERSHIP:

Surface ownership of the proposed well site, access road, and pipeline route is as follows:

#### State of Utah

#### 12. OTHER INFORMATION:

- A. EOG Resources, Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the Authorized Officer. Within five working days the Authorized Officer will inform the operator as to:
  - Whether the materials appear eligible for the National Register of Historic Places;
  - The mitigation measures the operator will likely have to undertake before the site can be used.
  - A time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.

If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation and stabilization of the exposed materials that may be required. Otherwise, the operator will be responsible for mitigation costs. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that required mitigation has been completed, the operator will then be allowed to resume construction.

- B. As operator, EOG Resources, Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BLM administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application or herbicides or other pesticides or possible hazardous chemicals.
- C. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on BLM lands after the conclusion of drilling operations or at any other time without BLM authorization. However, if BLM authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities. (The BLM does not seek to compete with private

industry. There are commercial facilities available for stacking and storing drilling rigs.)

D. The drilling rig and ancillary equipment will be removed from the location prior to commencement of completion operations. Completion operations will be conducted utilizing a completion/workover rig.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice of Lessees. The operator is fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Construction activity will not be conducted using frozen or saturated soils material or during periods when watershed damage is likely to occur.

If the existing access road, proposed access road, and proposed pad are dry during construction, drilling, and completion activities, water will be applied, as needed, to help facilitate compaction during construction and to minimize soil loss as a result of wind erosion.

A cultural resources survey will be conducted and submitted by Montgomery Archaeological Consultants. A paleontological survey will be conducted and submitted by Intermountain Paleo.

#### LESSEE OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION:

#### **PERMITTING AGENT**

Kaylene R. Gardner EOG Resources, Inc. P.O. Box 1815 Vernal, Ut 84078 (435) 781-9111

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved plan of operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to insure compliance.

#### **CERTIFICATION:**

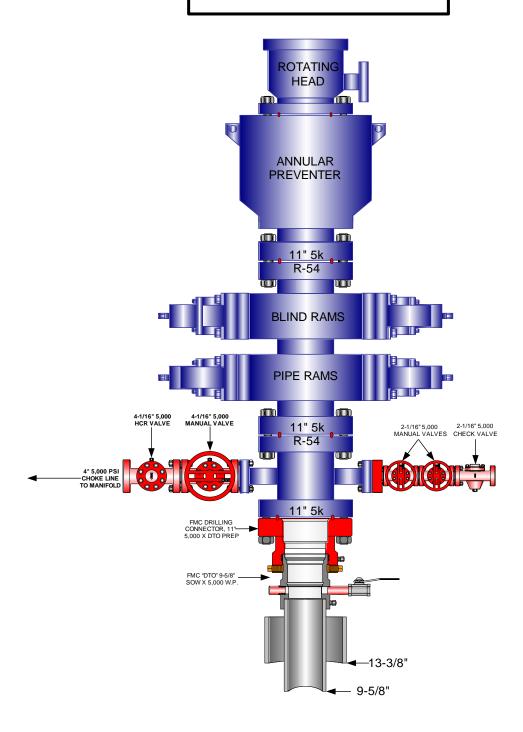
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by EOG Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that EOG Resources, Inc. is considered to be the operator of the Natural Buttes Unit 748-31E Well, located in the SWSE, of Section 31, T9S, R21E, Uintah County, Utah; State land and minerals; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is under Bond # NM 2308.

May 14, 2008	
Date	Kaylene R. Gardner, Lead Regulatory Assistant

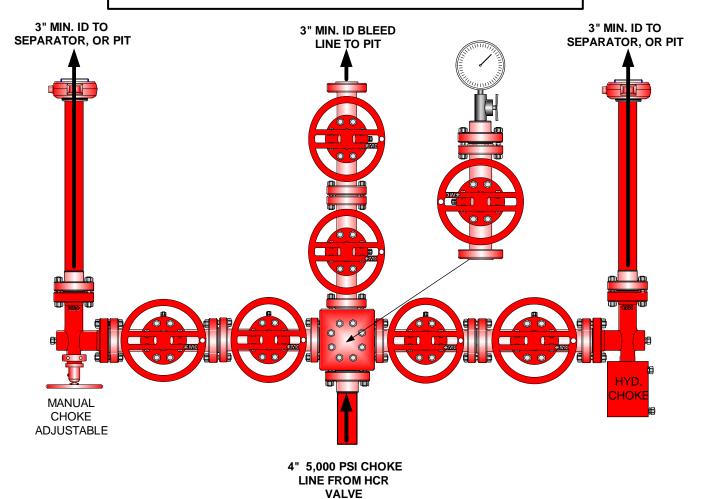
EOG RESOURCES 11" 5,000 PSI W.P. BOP CONFIGURATION

PAGE 1 OF 2



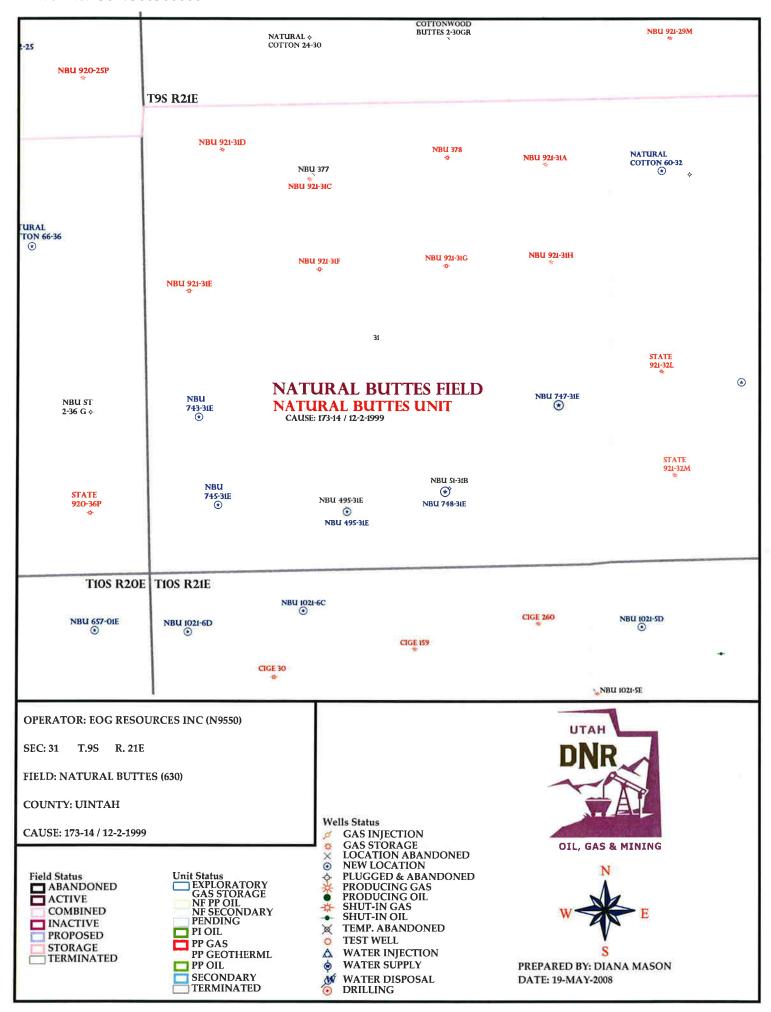
# EOG RESOURCES CHOKE MANIFOLD CONFIGURATION W/ 5,000 PSI WP VALVES

**PAGE 2 0F 2** 



# Testing Procedure:

- 1. BOP will be tested with a professional tester to conform to Onshore Order #2.
- 2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
- 3. Annular Preventer will be tested to 50% working pressure, 2,500 psi. Casing will be tested to 0.22 psi / ft. or 1,500 psi. Not to exceed 70% of burst strength, whichever is greater.
- 4. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
- 5. All BOPE specifications and configurations will meet Onshore Order #2 requirements.



11/25/2008

# **Application for Permit to Drill Statement of Basis**

**Utah Division of Oil, Gas and Mining** 

Page 1

APD No	API WellNo	Status	Well T	Sype	<b>Surf Owner</b>	CBM
764	43047500500000	InReview	GW		S	No
Operator	EOG RESOURCES, INC.		Surfac	e Owner-APD		
Well Name	NBU 748-31E		Unit		NATURAL E	BUTTES
Field	NATURAL BUTTES		Type o	of Work	DRILL	
Location	SWSE 31 9S 21E S	950 FSL	2056 FEL	GPS Coord (UTM)	620273E 4	427034N

#### **Geologic Statement of Basis**

Kerr McGee proposes to set 2,300' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,000'. A search of Division of Water Rights records shows one water well within a 10,000 foot radius of the center of section 31. The well is located over a mile to the east, is 200 feet deep and listed as used for oil & gasdrilling. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. The production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole. The proposed surface casing and cement should adequately protect ground water in this area.

Brad Hill 6/9/2008 **APD Evaluator Date / Time** 

#### **Surface Statement of Basis**

This location is approximately 11 miles southeast of Ouray, Ut.. It is accessed by the Seep Ridge Road to the Uintah County Middle Road then by existing or planned oil field development roads to within 340 feet of the site, which will require new construction.

The general area is within a long unnamed wash immediately west of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles below the site. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws which drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

The proposed NBU 748-31E gas well is proposed on a sandy flat which has a plugged well operated by Belco (NBU 51-31B). It appears it has been abandoned for many years. Only remnants of the old location are the well head, a few pieces of rusty metal and black scattered partially exposed black vinyl sheets. No defined drainages exist through the proposed pad area. A small drainage exist to the south and runs to the west. The site appears to be a good location for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the pre-site evaluation. He had no concerns regarding the location.

Ben Williams representing the UDWR stated the area is classified as yearlong crucial habitat for antelope. He stated the lack of water not forage is the limiting factor affecting the herd in the area. He recommended no restrictions for antelope. No other wildlife is expected to be significantly affected. He gave Byron Tolman, representing EOG, a copy of his wildlife evaluation and a UDWR recommended seed mix to be used when re-vegetating the location.

'APIWellNo:43047500500000'

11/25/2008

# **Application for Permit to Drill Statement of Basis**

Utah Division of Oil, Gas and Mining

Page 2

Floyd Bartlett
Onsite Evaluator

6/3/2008 **Date / Time**  'APIWellNo:43047500500000'

11/25/2008

# **Application for Permit to Drill Statement of Basis**

Utah Division of Oil, Gas and Mining

Page 3

#### **Conditions of Approval / Application for Permit to Drill**

**Category** Condition

Pits A synthetic liner with a minimum thickness of 16 mils with a felt subliner shall be properly installed and maintained in the

reserve pit.

Surface The reserve pit shall be fenced upon completion of drilling operations.

# **ON-SITE PREDRILL EVALUATION**

#### **Utah Division of Oil, Gas and Mining**

**Operator** EOG RESOURCES, INC.

Well Name NBU 748-31E

API Number 43-047-50050-0 APD No 764 Field/Unit NATURAL BUTTES

**Location: 1/4,1/4** SWSE **Sec** 31 **Tw** 9S **Rng** 21E 950 FSL 2056 FEL

GPS Coord (UTM) 620272 4427051 Surface Owner

#### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Byron Tolman (Agent for EOG), Ben Williams (Utah Division of Wildlife Resources)

#### Regional/Local Setting & Topography

This location is approximately 11 miles southeast of Ouray, Ut.. It is accessed by the Seep Ridge Road to the Uintah County Middle Road then by existing or planned oil field development roads to within 340 feet of the site, which will require new construction.

The general area is within a long unnamed wash immediately west of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles below the site. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws which drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

The proposed NBU 748-31E gas well is proposed on a sandy flat which has a plugged well operated by Belco (NBU 51-31B). It appears it has been abandoned for many years. Only remnants of the old location are the well head, a few pieces of rusty metal and black scattered partially exposed black vinyl sheets. No defined drainages exist through the proposed pad area. A small drainage exist to the south and runs to the west. The site appears to be a good location for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA.

#### Surface Use Plan

#### **Current Surface Use**

Grazing

Recreational

Wildlfe Habitat

**New Road** 

Miles Well Pad Src Const Material Surface Formation

0.08 Width 276 Length 375 Onsite UNTA

Ancillary Facilities N

#### Waste Management Plan Adequate?

#### **Environmental Parameters**

Affected Floodplains and/or Wetland N

#### Flora / Fauna

Vegetation is a salt desert shrub type. Principal species present are rabbit brush, shadscale, horsebrush, cheatgrass, halogeton, wild onions, loco weed, Russian thistle, 4-wing saltbush and prickly pear.

6/9/2008 Page 1

Cattle, antelope and small mammals and birds.

### **Soil Type and Characteristics**

Soils are a moderately deep sandy loam.

Erosion Issues N

**Sedimentation Issues** N

Site Stability Issues N

**Drainage Diverson Required** N

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Paleo Potental Observed? Cultural Survey Run? Cultural Resources?

### **Reserve Pit**

Site-Specific Factors		Site 1	Ranking	
Distance to Groundwater (feet)	>200		0	
Distance to Surface Water (feet)	>1000		0	
Dist. Nearest Municipal Well (ft)	>5280		0	
Distance to Other Wells (feet)	300 to 1320		10	
Native Soil Type	Mod permeability		10	
Fluid Type	Fresh Water		5	
<b>Drill Cuttings</b>	Normal Rock		0	
<b>Annual Precipitation (inches)</b>	<10		0	
Affected Populations	<10		0	
Presence Nearby Utility Conduits	Not Present		0	
		Final Score	25	1 Sensitivity Level

### **Characteristics / Requirements**

The reserve pit is in an area of cut in the southeast corner of the location. Dimensions are 75' x 175' x 12' deep with 2' of freeboard. A liner with a minimum thickness of 16 mils. and a felt sub-liner are required.

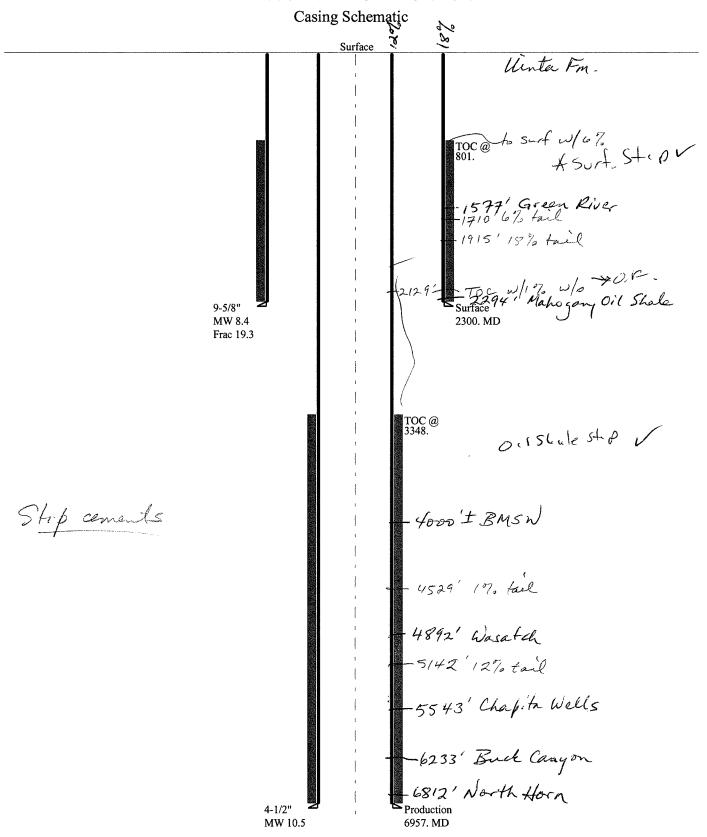
Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y

### **Other Observations / Comments**

Floyd Bartlett 6/3/2008 **Evaluator Date / Time** 

6/9/2008 Page 2

### 2008-06 EOG NBU 748-31E



2008-06 EOG NBU 748-31E Well name:

**EOG Resources Inc.** Operator:

Surface String type:

Project ID:

**Uintah County** Location:

43-047-50050

**Design parameters:** 

Collapse

8.400 ppg Mud weight: Design is based on evacuated pipe.

Minimum design factors:

Collapse:

Design factor 1.125 **Environment:** 

H2S considered? Surface temperature:

75 °F 107 °F

No

Bottom hole temperature: Temperature gradient:

1.40 °F/100ft

Minimum section length:

290 ft

Burst:

Design factor

Cement top:

801 ft

**Burst** 

Max anticipated surface

No backup mud specified.

pressure: 2,024 psi Internal gradient: 0.120 psi/ft

Calculated BHP 2,300 psi Tension:

8 Round STC: 1.80 (J) 8 Round LTC: 1.80 (J) **Buttress:** 1.60 (J)

1.00

Body yield:

1.50 (J) Premium: 1.50 (B)

Tension is based on buoyed weight. Neutral point: 2,014 ft

Re subsequent strings: Next setting depth: Next mud weight:

Non-directional string.

6,957 ft 10.500 ppg 3,795 psi

Next setting BHP: Fracture mud wt: Fracture depth: Injection pressure:

19.250 ppg 2,300 ft 2,300 psi

Run Segment Nominal True Vert Drift End Measured Internal Length Weight Grade **Finish** Depth Depth Diameter Capacity Seq Size (lbs/ft) (ft) (in) (ft) (ft) (in) (ft³) 1 2300 9.625 36.00 2300 2300 998.3 J-55 ST&C 8.796 Collapse Collapse **Tension** Run Collapse **Burst** Burst **Burst** Tension **Tension** Strength Design Seq Load Load Strength Design Load Strength Design (psi) (psi) **Factor** (psi) (psi) **Factor** (Kips) (Kips) **Factor** 1 1004 2020 2.013 2300 3520 1.53 73 394 5.43 J

Prepared

Helen Sadik-Macdonald Div of Oil, Gas & Minerals

Phone: 801-538-5357 FAX: 801-359-3940

Date: June 24,2008 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2300 ft, a mud weight of 8.4 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Well name:

2008-06 EOG NBU 748-31E

Operator:

**EOG Resources Inc.** 

String type:

Location:

**Production** 

**Uintah County** 

Project ID:

43-047-50050

**Design parameters:** 

Collapse

Mud weight: Design is based on evacuated pipe.

10.500 ppg

Minimum design factors:

Collapse:

Design factor 1.125

**Environment:** 

H2S considered? Surface temperature: No 75 °F

Bottom hole temperature: Temperature gradient:

Non-directional string.

172 °F 1.40 °F/100ft

Minimum section length: 1,500 ft

**Burst:** 

Design factor

1.00

Cement top:

3,348 ft

Burst

Max anticipated surface

pressure: Internal gradient:

2,264 psi 0.220 psi/ft

Calculated BHP

3,795 psi

No backup mud specified.

**Tension:** 

8 Round STC:

Premium:

Body yield:

8 Round LTC:

1.50 (J)

Tension is based on buoyed weight. Neutral point: 5,865 ft

**Buttress:** 

1.50 (B)

1.80 (J)

1.80 (J) 1.60 (J)

True Vert Drift Run Segment **Nominal** End Measured Internal Length Weight **Finish** Depth Depth Diameter Capacity Seq Size Grade (ft) (lbs/ft) (ft) (ft) (in) (ft³) (in) 607.1 6957 6957 6957 1 4.5 11.60 N-80 LT&C 3.875 Collapse Collapse Collapse **Burst** Burst **Burst Tension Tension Tension** Run Design Strength Design Seq Load Strength Load Strength Design Load (Kips) **Factor** (psi) (psi) **Factor** (psi) (psi) **Factor** (Kips) 1 3795 6350 1.673 3795 7780 2.05 68 223 3.28 J

Prepared

Helen Sadik-Macdonald

Div of Oil, Gas & Minerals

Phone: 801-538-5357 FAX: 801-359-3940

Date: June 24,2008 Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 6957 ft, a mud weight of 10.5 ppg The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

BOPE REVIEW			EOG NBU 748-31E API# 43-047-50050
INPUT			
Well Name		EOG NBU 748-31E	API# 43-047-50050
		String 1	String 2
Casing Size (")		9/2/6	
Setting Depth (TVD)		2300	
Previous Shoe Setting Depth (TVD)	(α)	09	2300
Max Mud Weight (ppg)		8.4	
BOPE Proposed (psi)		1000	
Casing Internal Yield (psi)		3520	
Operators Max Anticipated Pressure (psi)	ure (psi)	3799	9 10.5 ppg
Calculations	String 1	9 5/8	4.8
Max BHP [psi]	= .052*Setting Depth*MW =	1005	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	729	
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	499	) YES
			*Can Full Expected Pressure Be Held At Previous Shoe?
Pressure At Previous Shoe   Manager	Max BHP22*(Setting Depth - Previous Shoe Depth) =	512	
Required Casing/BOPE Test Pressure	essure	2300 psi	
*Max Pressure Allowed @ Previous Casing Shoe =	ious Casing Shoe =	09)	60 psi ) 🗸 *Assumes 1psi/ft frac gradient
Calculations	String 2	4 1/2 "	2
Max BHP [psi]	= .052*Setting Depth*MW =	3799	
			BOPE Adequate For Drilling And Setting Casing at Depth?
MASP (Gas) [psi]	Max BHP-(0.12*Setting Depth) =	2964	
MASP (Gas/Mud) [psi]	Max BHP-(0.22*Setting Depth) =	2268	3 YES
100000000000000000000000000000000000000			*Can Full Expec
Pressure At Previous Shoe   Ma	Max BHP22*(Setting Depth - Previous Shoe Depth) =	2774	
Required Casing/BOPE Test Pressure	essure	2000	psi /
*Max Pressure Allowed @ Previous Casing Shoe =	ious Casing Shoe =	[ 2300 se	psi 🔪 **Assumes 1psi/ft frac gradient
			K

**From:** Jim Davis

To: Bonner, Ed; Mason, Diana Date: 10/28/2008 4:28 PM

**Subject:** SITLA well approvals (4 from EOG)

CC: Garrison, LaVonne

The following wells have been approved by SITLA, including arch and paleo clearance.

4304750049	NBU 747-31E	<b>EOG Resources</b>	Natural Buttes	NESE	31	090S	210E	S
UINTAH								
4304750050	NBU 748-31E	EOG Resources	Natural Buttes	SWNE	31	090S	210E	S
UINTAH								
4304750059	NBU 749-31E	<b>EOG Resources</b>	Natural Buttes	SESE	31	090S	210E	S
UINTAH								
4304750064	CWU 1400-32	<b>EOG Resources</b>	Natural Buttes	SESW	32	090S	230E	S
UINTAH								

-Jim

Jim Davis Utah Trust Lands Administration jimdavis1@utah.gov Phone: (801) 538-5156

## **ON-SITE PREDRILL EVALUATION**

# Utah Division of Oil, Gas and Mining

**Operator** EOG RESOURCES, INC.

Well Name NBU 748-31E

API Number 43047500500000 APD No 764 Field/Unit NATURAL BUTTES

**Location: 1/4,1/4** SWSE **Sec** 31 **Tw** 9.0S **Rng** 21.0E 950 FSL 2056 FEL

GPS Coord (UTM) 620272 4427051 Surface Owner

### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Byron Tolman (Agent for EOG), Ben Williams (Utah Division of Wildlife Resources)

### Regional/Local Setting & Topography

This location is approximately 11 miles southeast of Ouray, Ut.. It is accessed by the Seep Ridge Road to the Uintah County Middle Road then by existing or planned oil field development roads to within 340 feet of the site, which will require new construction.

The general area is within a long unnamed wash immediately west of Cottonwood Wash. Both washes enter the White River in the same general area, approximately six miles below the site. The area is characterized by rolling hills, which are frequently divided by somewhat gentle draws which drain northerly. This unnamed wash is an ephemeral drainage. No springs, seeps or streams exist in the area. An occasional pond constructed to supply water for cattle and antelope exists. The washes are sometimes rimed with steep side hills, which have exposed sand stone bedrock cliffs along the rims.

The proposed NBU 748-31E gas well is proposed on a sandy flat which has a plugged well operated by Belco (NBU 51-31B). It appears it has been abandoned for many years. Only remnants of the old location are the well head, a few pieces of rusty metal and black scattered partially exposed black vinyl sheets. No defined drainages exist through the proposed pad area. A small drainage exist to the south and runs to the west. The site appears to be a good location for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA.

#### **Surface Use Plan**

**Current Surface Use** 

Grazing Recreational

Wildlfe Habitat

New Road Miles Well Pad Src Const Material Surface Formation

0.08 Width 276 Length 375 Onsite UNTA

**Ancillary Facilities** N

### **Waste Management Plan Adequate?**

#### **Environmental Parameters**

Affected Floodplains and/or Wetlands N

Flora / Fauna

11/25/2008 Page 1

Vegetation is a salt desert shrub type. Principal species present are rabbit brush, shadscale, horsebrush, cheatgrass, halogeton, wild onions, loco weed, Russian thistle, 4-wing saltbush and prickly pear.

Cattle, antelope and small mammals and birds.

### **Soil Type and Characteristics**

Soils are a moderately deep sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

Site Stability Issues N

**Drainage Diverson Required?** N

Berm Required? N

**Erosion Sedimentation Control Required?** N

Paleo Survey Run? Paleo Potental Observed? Cultural Survey Run? Cultural Resources?

### **Reserve Pit**

Site-Specific Factors	Site Ranking		
Distance to Groundwater (feet)	>200	0	
Distance to Surface Water (feet)	>1000	0	
Dist. Nearest Municipal Well (ft)	>5280	0	
Distance to Other Wells (feet)	300 to 1320	10	
Native Soil Type	Mod permeability	10	
Fluid Type	Fresh Water	5	
Drill Cuttings	Normal Rock	0	
<b>Annual Precipitation (inches)</b>		0	
Affected Populations			
<b>Presence Nearby Utility Conduits</b>	Not Present	0	
	Final Score	25	1 Sensitivity Level

### **Characteristics / Requirements**

The reserve pit is in an area of cut in the southeast corner of the location. Dimensions are 75' x 175' x 12' deep with 2' of freeboard. A liner with a minimum thickness of 16 mils. and a felt sub-liner are required.

Closed Loop Mud Required? N Liner Required? Y Liner Thickness 16 Pit Underlayment Required? Y

### **Other Observations / Comments**

Floyd Bartlett 6/3/2008 **Evaluator Date / Time** 

11/25/2008 Page 2

## WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED:	5/14/2008	API NO. ASSIGNED:	43047500500000
WELL NAME:	NBU 748-31E		
OPERATOR:	EOG Resources, Inc. (N9550)	PHONE NUMBER:	435 781-9111
CONTACT:	Kaylene Gardner		
PROPOSED LOCATION:	SWSE 31 090S 210E	Permit Tech Review:	<u>r</u>
SURFACE:	0950 FSL 2056 FEL	Engineering Review:	
воттом:	0950 FSL 2056 FEL	Geology Review:	<u>r</u>
COUNTY:	UINTAH		
LATITUDE:	39.98681	LONGITUDE:	-109.59132
<b>UTM SURF EASTINGS:</b>	620273.00	NORTHINGS:	4427034.00
FIELD NAME:	NATURAL BUTTES		
LEASE TYPE:	3 - State		
LEASE NUMBER:	ML-22446	PROPOSED FORMATION:	NHORN
SURFACE OWNER:	3 - State	COALBED METHANE:	NO
RECEIVED AND/OR REVIEWE	 D:	LOCATION AND SITING:	
<b>☑</b> PLAT		R649-2-3.	
<b>☑</b> Bond: STATE/FEE - 619601	7	Unit:	
Potash		R649-3-2. General	
Oil Shale 190-5			
Oil Shale 190-3		R649-3-3. Exception	
Oil Shale 190-13		Drilling Unit	
<b>✓</b> Water Permit: 49-225		Board Cause No:	
RDCC Review:		Effective Date:	
Fee Surface Agreement		Siting:	
Intent to Commingle		R649-3-11. Directional Drill	
Comments: Presite Compl APD IS APRVD IN U/	eted POD:		
9 - Cement c	nt of Basis - bhill asing to Surface - ddoucet e 190-5(b) - dmason		



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

### Permit To Drill

\*\*\*\*\*

Well Name: NBU 748-31E API Well Number: 43047500500000

**Lease Number:** ML-22446 **Surface Owner:** STATE **Approval Date:** 12/2/2008

#### **Issued to:**

EOG Resources, Inc., 1060 East Highway 40, Vernal, UT 84078

### **Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of CAUSE 173-14.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

### **Conditions of Approval:**

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

The cement volumes for the 9 5/8" casing shall be determined from actual hole conditions and the setting depth of the casing in order to place cement from the pipe setting depth back to the surface.

### **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following action during drilling of this well:

• 24 hours prior to cementing or testing casing - contact Dan Jarvis

API Well No: 43047500500000

- 24 hours prior to testing blowout prevention equipment contact Dan Jarvis
- 24 hours prior to spudding the well contact Carol Daniels
- Within 24 hours of any emergency changes made to the approved drilling program contact Dustin Doucet
  - Prior to commencing operations to plug and abandon the well contact Dan Jarvis

The operator is required to get approval from the Division of Oil, Gas and Mining before performing any of the following actions during the drilling of this well:

- Plugging and abandonment or significant plug back of this well contact Dustin Doucet
- Any changes to the approved drilling plan contact Dustin Doucet

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voice mail message if the person is not available to take the call):

• Dan Jarvis at: (801) 538-5338 office

(801) 942-0871 home

Carol Daniels at: (801) 538-5284 office
Dustin Doucet at: (801) 538-5281 office

(801) 733-0983 home

### **Reporting Requirements:**

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

**Approved By:** 

Gil Hunt

Associate Director, Oil & Gas

Die Hunt

	STATE OF UTAH		FORM 9	
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML-22446	
SUNDF	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
	sals to drill new wells, significantly deepen or gged wells, or to drill horizontal laterals. Us		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES	
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 748-31E	
2. NAME OF OPERATOR: EOG Resources, Inc.			9. API NUMBER: 43047500500000	
3. ADDRESS OF OPERATOR: PHONE NUMBER: 1060 East Highway 40 , Vernal, UT, 84078 435 781-9111 Ext			9. FIELD and POOL or WILDCAT: NATURAL BUTTES	
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0950 FSL 2056 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:			COUNTY: UINTAH	
Qtr/Qtr: SWSE Section: 31 Township: 09.0S Range: 21.0E Meridian: S			STATE: UTAH	
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA				
TYPE OF SUBMISSION		TYPE OF ACTION		
NOTICE OF INTENT Approximate date work will start: 11/20/2009	☐ ACIDIZE ☐ CHANGE TO PREVIOUS PLANS ☐ CHANGE WELL STATUS	<ul><li>□ ALTER CASING</li><li>□ CHANGE TUBING</li><li>□ COMMINGLE PRODUCING FORMATIONS</li></ul>	☐ CASING REPAIR ☐ CHANGE WELL NAME ☐ CONVERT WELL TYPE	
SUBSEQUENT REPORT Date of Work Completion:	☐ DEEPEN ☐ OPERATOR CHANGE	☐ FRACTURE TREAT ☐ PLUG AND ABANDON	<ul><li>□ NEW CONSTRUCTION</li><li>□ PLUG BACK</li></ul>	
SPUD REPORT Date of Spud:	☐ PRODUCTION START OR RESUME ☐ REPERFORATE CURRENT FORMATION	☐ RECLAMATION OF WELL SITE ☐ SIDETRACK TO REPAIR WELL	☐ RECOMPLETE DIFFERENT FORMATION ☐ TEMPORARY ABANDON	
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL	
DRILLING REPORT Report Date:	<ul> <li>WATER SHUTOFF</li> <li>WILDCAT WELL DETERMINATION</li> </ul>	☐ SI TA STATUS EXTENSION ☐ OTHER	✓ APD EXTENSION  OTHER:	
12. DESCRIBE PROPOSED OR CO	MPLETED OPERATIONS. Clearly show all pert	inent details including dates, depths, v	olumes, etc.	
EOG Resources, Inc.	respectfully requests the APD extended for one year.	for the referenced well be	Approved by the Utah Division of Oil, Gas and Mining	
		D B	ate: November 23, 2009 y:	
NAME (PLEASE PRINT) Mickenzie Gates	<b>PHONE NUMBER</b> 435 781-9145	TITLE Operations Clerk		
SIGNATURE N/A	.55 / 52 / 52 / 5	DATE 11/20/2009		



### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

### Request for Permit Extension Validation Well Number 43047500500000

**API:** 43047500500000 Well Name: NBU 748-31E

Location: 0950 FSL 2056 FEL QTR SWSE SEC 31 TWNP 090S RNG 210E MER S

**Company Permit Issued to:** EOG RESOURCES, INC.

**Date Original Permit Issued:** 12/2/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not

• If loca	sion. Following is a cnec ated on private land, has ed?			,	
•					
	any wells been drilled in requirements for this lo			l which would a	iffect the spacing or
	here been any unit or oth s proposed well? 🔘 Ye		out in place that	could affect the	e permitting or operation
	there been any changes the proposed location?			nership, or rigl	ntof- way, which could
• Has th	he approved source of w	ater for drilling o	hanged? 📵 Y	es 📵 No	
	there been any physical Je in plans from what wa				
• Is bor	nding still in place, which	n covers this pro	oosed well? 🌘	Yes 📗 No	pproved by the Jtah Division of , Gas and Mining
nature:	Mickenzie Gates	<b>Date:</b> 11/20/200	)9		
Title:	Operations Clerk Represe	enting: EOG RESC	OURCES, INC.	Date:_	November 23, 2009
				By:	2024
				_ , <u></u>	<u> </u>

Sig

	STATE OF UTAH	_	FORM 9			
	DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: ML-22446			
SUNDF	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:			
	sals to drill new wells, significantly deepen ugged wells, or to drill horizontal laterals. U		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 748-31E			
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONS	HORE, L.P.		9. API NUMBER: 43047500500000			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th S	PHOI Street, Suite 600, Denver, CO, 80217 3779	NE NUMBER: 720 929-6007 Ext	9. FIELD and POOL or WILDCAT: NATURAL BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0950 FSL 2056 FEL			COUNTY: UINTAH			
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: SWSE Section: 31	IP, RANGE, MERIDIAN: Township: 09.0S Range: 21.0E Meridian: S	S	STATE: UTAH			
11. CHE	CK APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPORT,	OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION				
_	☐ ACIDIZE	☐ ALTER CASING	CASING REPAIR			
NOTICE OF INTENT Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME			
12/2/2010	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE			
SUBSEQUENT REPORT	☐ DEEPEN	☐ FRACTURE TREAT	☐ NEW CONSTRUCTION			
Date of Work Completion:	☐ OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK			
_	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION			
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON			
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL			
DRILLING REPORT	□ WATER SHUTOFF	☐ SI TA STATUS EXTENSION	✓ APD EXTENSION			
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:			
Kerr-McGee Oil & G extension to this A	12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.  Utah Division of Oil, Gas and Mining					
		D	ate: 12/06/2010			
		_	Miles on d			
		В	y: Dally Bill			
NAME (PLEASE PRINT) Danielle Piernot	<b>PHONE NUMBER</b> 720 929-6156	<b>TITLE</b> Regulatory Analyst				
SIGNATURE N/A		DATE 11/30/2010				



### The Utah Division of Oil, Gas, and Mining

- State of Utah
- Department of Natural Resources

**Electronic Permitting System - Sundry Notices** 

### Request for Permit Extension Validation Well Number 43047500500000

**API:** 43047500500000 **Well Name:** NBU 748-31E

Location: 0950 FSL 2056 FEL QTR SWSE SEC 31 TWNP 090S RNG 210E MER S

Company Permit Issued to: KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 12/2/2008

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

require revi	sion. Following is a che	cklist of soi	me items relat	ed to the app	olićation, v	which should be verifie	d.
	ated on private land, ha ed? 🔵 Yes 📵 No	s the owne	rship changed	, if so, has th	e surface	agreement been	
	any wells been drilled i requirements for this l				ich would	affect the spacing or	
	nere been any unit or of s proposed well?		-	ace that coul	d affect tl	ne permitting or opera	tioi
	there been any change the proposed location?			ıding owners	hip, or rig	htof- way, which could	i
• Has th	ne approved source of v	vater for dr	illing changed	? 🔵 Yes 🎚	No		
	there been any physica le in plans from what w					e which will require a No	
• Is bor	nding still in place, whic	ch covers th	nis proposed w	rell? 📵 Yes		Approved by the Utah Division of il, Gas and Mining	
Signature:	Danielle Piernot	Date:	11/30/2010		Datas	12/06/2010	
Title:	Regulatory Analyst <b>Repr</b>	esenting:	KERR-MCGEE O	L & GAS ONSH	HOREPE,		



# State of Utah

#### DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

December 15, 2011

Kerr McGee Oil & Gas Onshore, L.P. P.O. Box 173779 Denver, CO 80217

Re:

APD Rescinded - NBU 748-31E, Sec. 31, T. 9S, R. 21E

Uintah County, Utah API No. 43-047-50050

### Ladies and Gentlemen:

The Application for Permit to Drill (APD) for the subject well was approved by the Division of Oil, Gas and Mining (Division) on December 2, 2008. On November 23, 2009 and December 6, 2010, the Division granted a one-year APD extension. No drilling activity at this location has been reported to the division. Therefore, approval to drill the well is hereby rescinded, effective December 15, 2011.

A new APD must be filed with this office for approval <u>prior</u> to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Miana Mason

Environmental Scientist

cc: Well File

SITLA, Ed Bonner

